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EXAMINER

CHEN, ALAN S

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/053,433	Applicant(s) SCOTT ET AL.	
	Examiner Alan S Chen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, submitted 11/12/2004, with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection. However, particular arguments applicant makes are considered and commented on below in order to help elucidate the Office's position.
2. It is acknowledged that the applicant will address the double patenting rejection if and when the claims are identified as allowable.
3. It is acknowledged that the applicant is attempting to correct the informalities in the present set of drawing via a professional patent draftsman. Examiner is able to discern and understand of the subject matter sought to be patented using the current set of drawings. The objection to the drawings is reiterated in this Office Action and will be withdrawn once corrections are made.
4. As per applicant's arguments 2A-E made on pages 8-11, Examiner does not agree.

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In 2A, on page 9 of applicant's remarks, applicant argues Huber does not teach or even suggesting a docking station as indicated in the claims. Examiner disagrees. To further explain the Examiner's position under the broadest reasonable interpretation of the claim language as dictated by the patent law, Huber discloses an "intelligent docking station system" in Fig. 6, particularly the laptop (Fig. 6, element 600) which serves to dock the PDA (Fig. 6, element 605). This docking station (Fig. 6, element 600) *is by definition* a "docking station" where the PDA physically "docks" to the laptop platform (e.g., the "docking station"). Clearly the docking station indicated in Fig. 6 is, by definition, a "docking station", without the need to label it by the words "docking station".

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In 2B, on page 9 of applicant's remarks, applicant argues Hub does not teach show or suggest a co-processor capable of converting handheld-based data elements. The first limitation claims "a docking station having a co-processor capable of converting a hand-held based data element into a device enabled data element." This regards the ability for the docking station to convert PDA data objects to a data object that is compatible with another device, hence another different data object. When the PDA is docked to form the intelligent docking station system as cited in the preamble, this first limitation is exactly anticipated. As shown in Fig. 5, the communication is between the PDA and the laptop board over several signal lines. Fig. 4A, element 405 shows the co-processor that performs the necessary conversions for data signals to be compatible with both the PDA and laptop board which have disparate operating systems, PALM OS vs. Windows, for instance. Expressly stated in paragraphs 28, "The co-processor 405 is an application specific integrated circuit (ASIC) that controls IO communications". This is not an unreasonably broad, strained interpretation or reached in hindsight. It is clear that Huber uses an operating system such as the Palm OS or Windows CE (paragraph 7) for the PDA. It is inherent that the laptop PC docking station uses an operating system that is *not* Palm OS or Windows CE (paragraph 5). It is also clearly disclosed by Huber that the co-processor exchanges information with a PC processor (Fig. 3, element 300 that exists on the laptop PC) or a video controller (Fig. 4A) that outputs the video data from the PDA to a display (400). Both of these embodiments are expressly stated throughout Huber, i.e., "the coprocessor interfaces to the video controller..." (paragraph 420), "When the PDA system 305 is attached to the computer architecture, IO control to the SIO 320 is needed. IO control signals from the SIO 320 to the PDA system 305 by way

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of the co-processor are provided...”(paragraph 31), “the PDA system communicates to the SIO 320 by way of a low pin count bus 440. LPC bus 440 is a two way bus that receives and sends data to the PC architecture...” (paragraph 31). The co-processor clearly undertakes the role of converting data objects from the PDA (e.g., video data or non-video data) to a compatible object for the video controller or laptop PC which has a different operating system.

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In 2C, on page 10 of applicant's remarks, applicant argues Huber does not teach a second operating system. Examiner contends that although Huber does not expressly cite a second operating system, it is inherent that for a processor to operate, it has to have a set of programmed instructions that constitute as its operating system to control the devices resident in a system. For instance, on the PDA, the PALM OS will control the devices resident on the system such as the processor, co-processor, memory elements (shown in Fig. 4A of Huber), requiring specific device drivers that are loaded on top of the operating system. Similarly on the PC laptop computer, the Windows operating system is another operating system where device drivers in the operating system are required for the various devices in the system to interact and function properly. While Huber suggests the co-processor resides on the PDA (paragraph 28), it is just as logical, if not more, to place the co-processor on the PDA or the docking station, as alluded to in paragraph 38 of Huber, of the possible alternative forms that the system can have. If the co-processor was the processor of the laptop on the docking station side, the circuit board real estate, and power consumption would be less on the PDA. The co-processor, therefore can reside on the motherboard end (e.g., Fig. 5, element 500) to assist in the operations related to when the to computing devices are docked. The new rejections presented in this Office Action cites a secondary reference No. 5,668,977 to Swanstrom et al. in order show and support that this is an obvious possibility.

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In 2D&E, on page 10 of applicant's remarks, applicant argues Huber does not teach a low-level driver or a top-level driver anywhere and Examiner only uses inherency to assert its existence. Examiner wishes to give the definition of "device driver" from the The Authoritative Dictionary of IEEE Standard Terms, Seventh Edition: "device driver (2) The software responsible for managing low-level *I/O operations* for a particular hardware device or set of devices. Contains all the device-specific code necessary to communicate with a device and provides a standard interface to the rest of the system," (emphasis added). As stated in paragraph 28 of Huber, the coprocessor controls the IO communications to IO devices such as the touch screen (Fig. 4A, element 430). It does not appear as a remarkable assertion, and indeed inherent, that a low level driver exists to deliver PDA data elements to an I/O device such as the I/O touch screen 430 or the display 410. Device drivers must exist in order for the various devices in a computing system to operate. It provides the modularity needed when various devices may come from different device manufacturers but integrated into one system, and thereby require individual device drivers to be loaded. Regarding the top-level device driver, Examiner uses the arguments made 2B pertaining to the co-processor handling I/O signals between disparate systems. By definition, a device driver must exist with the co-processor in order to handle the signal conversions between disparate systems, e.g., IO signals that go from the PDA (Fig. 4A, element 405) to the PC (Fig. 4, elements 440 and 445) or video controller (Fig. 4A, element 420).

Double Patenting

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5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 7-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the following claims of copending application: claims 1-4, 6-13, 15 and 16 of copending Application No. 10/051264; claims 7 and 9 of copending Application No. 10/093921; claims 1-4, 6-13, 15 and 16 of copending Application No. 10/061997; claims 1, 2, 11, 12, 14, 15, 18 and 20 of copending Application No. 10/093779. Although the conflicting claims are not identical, they are not patentably distinct from each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Specification

7. The disclosure is objected to because of the following informalities: acronym "IDS" should be defined upon first use on page 3, line 16, immediately after the terms "intelligent docking station".

Appropriate correction is required.

Drawings

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8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "160" has been used to designate multiple different parts. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 158 in Fig. 1, 200 and 218 in Fig. 2. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-20 are rejected under 35 USC 103(a) as being unpatentable over Huber in view of No. 5,668,977 to Swanstrom et al. (hereafter Swanstrom).

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12. As per claims 1, 10 and 12, Huber discloses an intelligent docking station (IDS) system and software system for an IDS, comprising: a docking station (Fig. 6, element 600) having a co-processor (Fig. 4B, element 475) capable of converting a hand held-based data element (Fig. 4B, element 400, the PDA) into a device enabled data element (Fig. 4B, element 475; a bus that couples the docking station to a handheld computer (Fig. 5, elements 440, 445, 465 and 470); a handheld computer having a processor operated by a first operating system (Fig. 4A, element 400 and paragraph 28, PALM OS); the co-processor being operated by an operating system (Fig. 4A, element 405 and paragraph 8, PALM OS), the operating system communicating with a top-level driver capable of formatting handheld-based data element into a device enabled data element (paragraph 28 and Fig. 5), and also enabled to deliver the device enabled data element to a low level device driver (paragraph 28, e.g., transferring I/O data to the touch screen requires a device driver to translate I/O signals from the coprocessor to be able to be displayed on the I/O touch screen); and a device coupled to the docking station, the device capable of receiving the device enabled data element from the low level driver (Fig. 4A, elements 430 or 410 and paragraph 26).

Huber does not disclose expressly a second operating system which enables the operation of the co-processor.

Swanstrom discloses a docking station system (Fig. 1), where a microcontroller exists on both the docking station (Fig. 1, element 38) and the dockable computer device (and Fig. 1, element 26). Swanstrom discloses the microcontroller on docking station as not merely a multiplexor, but being active, programming device components (column 6,

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lines 44-53) and processing the data that is transmitted and received from the docking station (column 6, lines 5-15 and Column 6, lines 44-53).

Huber and Swanstrom are analogous art because they are from the same field of endeavor in docking systems having both a processor and a coprocessor for transferring data over two different systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to put the co-processor on the docking station side of Huber, hence have the operating system on the docking station side to operate the co-processor.

The suggestion/motivation for doing so would have been the fact that the Huber docking station already has a more than capable processor with on the laptop that can perform the necessary data conversion. This is not a just mere rearrangement of parts (as per MPEP §2144.04), but rather it would have been obvious to due to the limited space, battery power, and computational power in the PDA device of Huber. It would be a logical choice, where the interface logic to make compatible the data from two disparate systems, be distributed amongst two devices. Furthermore, Swanstrom also shows the advantages of putting the co-processor on the docking station side where it can assist in docking operations (Column. 6, lines 44-50).

Therefore, it would have been obvious to combine Swanstrom with Huber for the benefit of putting the co-processor on the docking station for assistance in docking operations as well as distributed processor computing in transferring data when docked.

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13. As per claim 2, Huber combined with Swanstrom discloses claim 1, wherein Huber further discloses the device is a monitor (Fig. 4A, element 410).

14. As per claim 3, Huber combined with Swanstrom discloses claim 1, wherein Huber further discloses the device is a mouse (Fig. 1, element 130).

15. As per claim 4, Huber combined with Swanstrom discloses claim 1, wherein Huber further discloses the device is memory (paragraph 5, laptop has memory, e.g., cache/RAM or hard drive)

16. As per claims 5 and 14, Huber combined with Swanstrom discloses claims 1 and 13, wherein Swanson further discloses the bus is a wireless connection (Column 6, lines 44-53).

17. As per claim 6, Huber combined with Swanstrom discloses claim 1, wherein Huber further discloses the device coupled to the docking station is integrated with the IDS (e.g., laptop display screen or memory in the laptop).

18. As per claims 7-9 and 11, Huber combined with Swanstrom discloses claims 1 and 10, Huber further disclosing a communication driver integrated with the IDS or handheld, the communication driver capable of converting signals between a bus-enabled data element and an IDS enable data element (Fig. 5, element 440, the communication between PDA and laptop inherently requires a communication driver to convert signals from PDA to laptop. The laptop operates under standard I/O such as serial, parallel, USB protocols, but the PDA does not. The difference in operating systems of the PDA and laptop further necessitates a conversion/translation between communication signals. Here, top-level drivers are intermediary between the OS and low-level device drivers).

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19. As per claim 13, Huber combined with Swanstrom discloses claim 12 further comprising a bus coupled between the communication driver and a second communication driver located in a handheld (Fig. 5, also on both the PDA and laptops ends, inherently require a driver to communicate between the two devices).

20. As per claim 15, Huber combined with Swanstrom discloses claim 13, further comprising a top-level device driver coupled between the second communication driver and a handheld OS (the display driver for the PDA display screen sits between the I/O driver and the PDA OS).

21. As per claim 16, Huber combined with Swanstrom discloses claim 12, wherein Huber further discloses the low-level device driver is a keyboard driver (Fig. 1, element 125).

22. As per claim 17, Huber combined with Swanstrom discloses claim 12, wherein Huber further discloses the low-level device driver is a monitor driver (Fig. 1, element 105).

23. As per claim 18, Huber combined with Swanstrom discloses claim 12, wherein Huber further discloses the low-level device driver is capable of reading and writing data to memory (Fig. 4A, element 415).

24. As per claim 19 and 20, Huber combined with Swanstrom discloses claim 12, wherein Swanstrom further discloses the bus is wireless (Column 4, lines 55-65).

Conclusion

25. The Examiner believes there is subject matter in the specification that if effectively narrowed into the claims, would read over the prior art. For example, details into the IDS detection algorithm would help to read around the prior art. The subject

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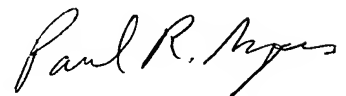
matter to be included must distinguish the applicant's invention from docking stations regardless of the form factor, e.g., PDA, laptop, etc., such as the one by Huber where two disparate computing systems are joined requiring conversion of data by a set of drivers, as well as show that the existence of the co-processor in the docking station cannot just as easily be resident on the portable computing device.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S Chen whose telephone number is 571-272-4143.

The examiner can normally be reached on M-F 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PAUL R. MYERS
PATENT EXAMINER

ASC
1/13/2005